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A NATURALIST'S VISIT TO THE CALF OF MAN.

BY P. RALFE.

THE southern extremity of Man, with the adjoining rocky islet, has long been well known as a sea-bird station, and has acquired a classic celebrity as the early recognised breeding-place of *Puffinus anglorum*, which received thence its trivial English name. Sir Wm. Jardine's 'British Birds' contain many allusions to bird-colonies as they existed there half-a-century ago. I have many times visited this locality, but in the summer of 1892 was able to explore its recesses more fully than ever before, although less completely than I could have wished. The long mountain range which forms the main portion of the Isle of Man ends at the south in a small stretch of low land, on which stands the town of Castletown, and which crosses the isle, here reduced to a mile in breadth, from Port St. Mary to Port Erin. Beyond this level strip rises another mass of rugged though comparatively low upland, of an oblong shape, about two miles by one mile and a half, partly cultivated and partly covered with heath, on which stands, with the bare moor rising behind its cottages, and bearing near its summit (430 feet above sea-level) a beautiful and perfect pre-historic stone-circle, the old-world village of Cregneish. This piece of upland, which forms the south-western extremity of Man, is called—or at least its highest point is called—the Mull (variously spelled, but locally pronounced "Myool"). Its coast, precipitous all round, comprises the highest sheer cliffs of Man. Beyond this is a rocky strait, 300 yards wide, and across it another rugged isolated hill, the so-called Calf of Man.

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"The Calf" is 616 acres in extent, irregularly triangular, and generally pretty compact in shape, though broken at its southern side. An isolated Stack stands at the south, and another at the west. The greatest height of the islet, near its western end, is 421 feet. On the north its coast has no cliffs, and on the east the only high point is the "Kione Rouayrt," but the rest of its circuit shows a fine face of precipice, rising almost to its summit. Near the edge of the high western cliff are two lighthouses, which formerly showed the position of the Chickens reef, a little to the south-west, but which have been disused since the erection of a lighthouse upon the rock itself. Further inland is a farmhouse, and a part of the Calf, chiefly in its neighbourhood, towards the centre of the islet, is cultivated.

It was on June 9th that my visit was made. The weather was beautiful; a soft haze rested on the calm sea and obscured the distant view. It was about two o'clock in the afternoon, when, having procured a boat through the kindness of a Port St. Mary friend, our party set out from that picturesque little haven. Leaving the land-locked harbour, and the houses clustered closely under their sheltering hill, we rowed round the low outstretching shelves of limestone, curiously formed and rich in fossils, which separate Port St. Mary from the creek of Perwick—one of the many Norse names which recall the days of Viking settlement. Round the point, the low coast gives place to the bold broken cliffs of slate rock which form the usual Manx sea-margin. On the west side of Perwick these are not yet lofty, but steep and picturesquely caverned, and round their edges runs a strip of lovely greensward which, a month before our visit, was pale with the crowding blooms of the vernal squill, *Scilla verna*, which grows so thickly as to give the cliff-margin the prevailing tint. This is a favourite haunt of the Wheatear, *Saxicola ænanthe*, and just outside is one of the "Shag Rocks" of the island, on this day untenanted, for these birds in their breeding-season more or less forsake their ordinary roosting-places. Crossing the opening of Perwick, we heard the note of the Oystercatcher, *Hæmatopus ostralegus*, and saw a party of some seven or eight of these birds scudding along by the white-shingled strand of one of its inner creeks. They probably breed somewhere in this district sparingly, as they do more numerously on our sandy northern coasts. Until past Perwick we had seen nothing of rock-birds, but on

reaching, at its further side, the high point called "Kione-y-Ghoggan," Razorbills, *Alca torda*, began to pass and repass as the coast rose into a series of shelves far above the sea, the grey of the schist-rock, sometimes so dark here, weathered almost into whiteness. We noted, to our surprise, a pair of Common Sandpipers, *Tringoides hypoleucus*, running at the weedy foot of these great rock-walls, a situation which seems at variance with the usual habits of this species, but which I have several times observed in other parts of the island. Beyond "Kione-y-Ghoggan" is a wild recess where the cliff ledges (not, as on the outside, bare even of a blade of grass) are thick with a rich vegetation, the light glaucous hue of the sea-campion, the glossy green of sorrel, and the flowering beds of samphire, *Crithmum maritimum*, varying the rock surface. In the centre of the recess lies the block called "The Anvil," and the further cliff is pierced by the cave so well known to tourists as "The Hall," the other end of which enters into the Bay of Stacka. Opposite its opening is the huge pyramidal stack, the "Sugar-loaf," from which the bay derives its name, and both on this and the adjacent mainland, are shelves which hold a considerable number of Guillemots and Razorbills. *Larus argentatus* also breeds abundantly in the recess at the "Anvil," and on the "screes" of the Stacka Bay, where the cliff-face is encumbered with vast masses of fallen stones and debris. At the summit is the show place called the "Chasms," the slipping of the cliff-side having caused deep rents in the hill above, but the precipitous shore beneath is infinitely grander than these narrow crevices. The whole surface here is a waste, and covered with ling, *Calluna vulgaris*, rising to one of the highest points of the Mull, the "Cronk-ny-Arrey" (or as the people of the neighbourhood, with a strange mixture of Manx and English, say, "Cronk Watch"), one of the many watch-hills of the anciently warlike islanders.

Leaving the "Sugar-loaf," we proceeded to the somewhat less-known cliffs on the further side of Stacka Bay. These reach their greatest height in "Spanish Head," a fine perpendicular precipice, the name of which is often connected with the wreck of some ship or ships of the Spanish Armada. The association seems to be groundless,* but the sheer and massive precipice,

* See Rev. T. Talbot, in 'Transactions of Isle of Man Nat. Hist. &c. Soc.,' vol. i., p. 109 & seq.

rising from a deep clear sea, is probably the grandest in the Isle of Man. Hitherto we had seen Guillemots and Razorbills, but the more local Puffin, *Fratercula arctica*, now began to appear, and we noticed the first nesting-place of these birds among the rock debris on the eastern side of the Head. Both water and air were now alive with birds; Puffins, Guillemots, and Razorbills sped down from the rocks, and swam and dived around our boat, while young Shags, *Phalacrocorax cristatus*, brown, ugly, and stupid, sat ranged just above the water-mark. The number of Shags, however, which we saw on this day was not very great. A little to the west of "Spanish Head," a bit of broken ground high up, is another breeding-place of the Puffin, where, though too far off to be seen to advantage from the sea-level, we watched the crowds of birds streaming to the water. From "Spanish Head" we crossed the Sound towards "the Calf," which was a matter of no difficulty, the tide being in our favour and the water smooth. We kept southward at a little distance from the east coast of the islet. Passing the "Kione Rouayrt," we observed the same crowd of rock-birds, and noted the sharply-cut inlet called the "Ghaw Yiarn," or Iron Creek. Before us now, with a strip of lower coast extending towards it, was the southern horn of "the Calf," with the perforated stack called the Burrow at its extremity. Just opposite, the uncultivated land was richly cushioned with blooming sea-pink, *Statice armeria*. Rounding the Burrow, and crossing the mouth of a rocky inlet, we passed the "Caigher," another projecting point, and rowed underneath the western coast of "the Calf," the fine line of cliffs already spoken of. Here the Razorbills and Guillemots appeared again, and up on the cliff-top we saw some birds flying, which were probably Choughs, *Pyrrhocorax graculus*. These birds are still not uncommon on the opposite mainland, and I have watched them walking on the turf near "the Chasms," or perching on the craggy sides of an old stone quarry near the shores of the Sound. Off this side of the Calf is the "Stack," consisting really of two connected pieces of crag, though when seen from the north side, where it is visible for a great distance, it looks like a single pyramid, or even a ship passing the end of the Calf. It is perhaps 100 feet in height. Here we landed, and easily ascended the rock, but its landward side is very precipitous, and as we climbed upwards, we scattered numbers of rock-birds off the ledges. Young gulls, *Larus argen-*

tatus, were hiding, motionless, on the bare stony surface, which was strewn with long trailing sprays of the sea-beet, *Beta maritima*.

From the Stack northward the whole west coast of the Calf was one great colony of Herring Gulls, the most extensive I have met with. The cliffs here are less precipitous than under the lighthouses, and the steep slopes of stony rubble, mixed with grassy ledges and green sloping brows, are such ground as this gull loves. Low down we saw Puffins coming out from the broken ground near the bottom; and here we went ashore, there being no difficulty in landing anywhere on so calm a day. Among the stones there was a rank growth of sea-campion and other plants, and the surface was strewn with nests of the Herring Gull, mostly empty, though one contained two eggs. Broken egg-shells of the Puffin were lying around. In our hurried inspection, we saw in one hole among the stones an egg, and in another a bird. Owing to these burrows being under and among great fragments of rock, they were in many instances quite impregnable.

We drew the boat off, and, resting to lunch, looked up at the vast brows, whose luxuriant upper ledges were blue with masses of hyacinths, and here and there, in some sheltered spot, a streak of pale yellow showed where the primroses grew plentifully in the rich mould, the whole range being reflected softly in the glassy water at its base. When we rowed on into the Sound, completing our circumnavigation of "the Calf," the tide had turned, and our Port St. Mary friend, a knowing pilot, told us to take in our oars. Then, on a blue and golden sea, borne by a swift though smooth tide, we drifted, as it were to some enchanted land, accompanied by the fairy forms of the white sea-gulls. Flocks of these birds rested on the water, and we noted that some of them would drift, like ourselves, with the tide, and then fly up and return to the spot from whence they started, to repeat the action as if for the mere pleasure of the voyage.

Throughout our return journey the tide still helped us, and, passing the mainland cliffs again, we reached Port St. Mary in time for the last train back to Douglas.

During the day's excursion we met with two colonies of the Lesser Black-backed Gull, *Larus fuscus*, and one of the Kittiwake, *L. tridactylus*. I need not indicate the particular sites of these, for although neither is rare as a British bird, and both are

protected by law in this island, it is only here, so far as I know, that *L. fuscus* breeds in any numbers, and the Kittiwake settlement is the only one I have seen or heard of in the island. The nesting-places of *L. fuscus* were two isolated rocks, and we saw no birds away from the immediate neighbourhood of these. The Kittiwakes occupy a cavernous situation beneath a high very steep cliff. As we rounded a corner, we heard their unfamiliar note breaking out amid the murmur of the Guillemots and the harsh, laughing cry of the larger Herring Gulls, and immediately afterwards saw a crowd of those beautiful dove-like birds in agitated flight, while others sat on the ledges above the cavernous recess up which the still deep water washed, the darkness of its great terminal cave contrasting strongly with the glow of the sunny sea-levels without. This small colony is divided into two parts, though these are very close together. We landed here on low and narrow weedy shelves at the foot of the precipitous wall, studded with the cups of that curious sea-weed, *Himanthalia lorea*, and one of our party climbed to several nests of the Kittiwakes, but all he reached were empty, while on others, a few feet above, the occupants still sat, refusing to be scared away.

I may add that neither on this, nor on any other occasion when I have been in this locality, did I see a single Black Guillemot, *Uria grylle*, although this species has been reported by other observers here, and breeds in limited numbers in other localities in the Isle of Man.

CONTRIBUTIONS TO AN AVIFAUNA OF BADEN.

By G. NORMAN DOUGLASS.

It would be worth while to undertake the preparation of a new avifauna of Baden, if, as I believe to be the case, no attempt has been made since 1849 to revise Kettner's list, published in that year. In this list are enumerated some 318 species,—a number which Nüsslin has reproduced in his short general survey of 1883,—and, though some of them may be safely struck out, the balance might be restored by the addition of others he has omitted, such as the Yellow-browed Warbler, Red-breasted Flycatcher, and one or two still more "occasional stragglers." As

it stands, the list exceeds that of any other province of Germany; and this abundance of bird-life is due both to the varied character of the surface of the Grand Duchy, and to its geographical position in the centre of Europe, in proximity to the Alps, and on special lines of migration. The basin of the Lake of Constance is a meeting point for migratory aquatic fowl; numbers come in winter to its open waters from smaller continental lakes; some accidental visitors find their way along the Danube, or from the Adriatic, like the Pelican, Flamingo, or the Ibis, of which a recent specimen, now in my possession, was shot in 1886, though not in Baden territory. Most of the marine species—Gulls, Swans, Mergansers, Scoters, &c.—must follow the Rhine Valley, and among these is the Razorbill, shot by an English sportsman some years ago, and, to the best of my knowledge not previously recorded. The list also includes several peculiar alpine species, and others from still further south—immigrants by way of the Rhone, such as the flock of Bee-eaters that established itself for a short time on the sunny slopes of the Kaiserstuhl. Although the rarer migrants, notably raptorial, stand no better chance of surviving here than in England, and though the favourite haunts of others are diminishing every year, the country has special and permanent attractions for ornithologists, as the literature of this subject will prove; but whoever wishes to work it out thoroughly and up to date will have to consult not only Kettner and Walckner, the majority of whose dates are prior to 1835 (though the first-named published some interesting details much later), but also scattered notes in recent standard works and current journals, to say nothing of the inevitable correspondence. Perhaps some resident in Baden may be induced by these indications to take up the task, if only in order to keep the country up to the level of most other German states in this respect. I have avoided all references, and am confining myself to a few personal observations which terminate with the year 1889. The result is little more than a catalogue of the commoner birds to be met with in the neighbourhood of the capital; and for many of these—very many—I can find no entries, so that my only excuse in presenting such an incomplete list is that it may serve to give an idea of the general status of bird-life, as compared with England, and of the periodical scarcity and abundance of certain species, a subject that will acquire more biological value in proportion as

statistics accumulate. In the classification and nomenclature I have followed 'The Ibis' List of British Birds.

Turdus viscivorus is relatively uncommon, and *T. musicus* also, at least in winter, when numbers emigrate to warmer climates. It avoids the town more carefully than *merula*.—*T. iliacus* and *pilaris*. Both observed in the neighbourhood of Karlsruhe, the former scarcer.—*T. merula*. The proportion between Thrushes and Blackbirds in summer is about equal. In other portions of the continent and in parts of England I find *merula* preponderates: a younger form, it appears less delicate, diffident or particular as to site and construction of nest. It begins to sing sooner (I have heard it with the thermometer at freezing-point), and nests perhaps earlier, qualifications that may contribute to this ascendancy.—Mr. E. Barrington writes to say that he has noticed *T. torquatus* in the Black Forest, Kaiserstuhl near Freiburg, and Hohentwiel near Constance.

Pratincola rubetra. Near Riegel, on the Kaiserstuhl.

Ruticilla phoenicurus and *titys*. Both common, the latter apparently more so. They arrive about the time (March 15th to 25th) when Bluethroats are said to come in considerable numbers, and remain till the first week of October.

Erythacus rubecula is not so abundant or familiar as in England, and affects out-of-the-way places. Slightly on the increase.

Daulias luscinia. Numerous in and around Karlsruhe, where it breeds principally in the Grand Ducal "Schlosspark" and "Phasanengarten," and still commoner in the woods bordering the Rhine. My earliest date for hearing the song is April 2nd, and the latest June 13th. I am told a heavy fine is imposed on those who are found catching Nightingales, and that this is the cause of their abundance here, whilst in other parts of Germany they have become practically extinct. It sings occasionally, contrary to habit, from the branches of trees, about twenty to thirty feet from the ground.

Perhaps the commonest Warbler, though it has the gift of keeping out of sight, is *Sylvia cinerea*. It breeds late, I suspect in order to await the growth of vegetation, in which to conceal its nest.—I stumbled against a nest of *S. curruca* in a private garden of the town: it contained ten eggs, probably the product of two hen-birds. Qy. Could all the young have survived in the

limited space, and would one bird have been able to feed the whole brood? I have found this species also at Forchheim, in the Rhine woods.—Mr. E. Barrington tells me that he observed *S. orphea* in July, 1890, near Karlsruhe.—*S. atricapilla* and *hortensis* are found in the proportion of about five to three, the former still increasing; they generally arrive by the first week in April. The female Blackcap sometimes performs most extraordinary antics and contortions, more so than any other bird I know, and doubtless in order to entice an intruder away from her brood.—A nest of *S. nisoria*, of which I acquired an egg, was taken in May, 1887, in the "Hardwald," and not many hundred yards from the town.

Regulus cristatus. Wanders through the Hardwald in company with Creepers, Tits, and Nuthatches, but, like the Crested Tit, it never enters the town in winter, as the others do.—I have also noticed *R. ignicapillus* several times, and have seen a specimen of it, captured after a strong gale, in the centre of the town.

Phylloscopus rufus. Rarer than either *trochilus* or *sibilatrix*, the former of which used to be the commonest of the three. Now the balance is in favour of *sibilatrix*. Why?

Hypolais icterina. Throughout the Rhine woods. A nest obtained near Daxlanden was situated about eight feet from the ground, and lined with green grass. The delicate crushed-strawberry tint of the egg fades, unfortunately, very soon.

Acrocephalus streperus. Plentifully distributed over the Rhine plain, in suitable localities. Numbers build on the River Alb, near Karlsruhe, generally between two to five reeds; often in bushes, brambles, or rank vegetation, the nest almost touching the ground. An author praises the "providential" forethought of the following species, that forbids it to construct its nest too early; but this sort of instinct is hardly more than a habit, sometimes even at fault, as was seen in the spring of 1887, when, during a fortnight of fine weather, the Reed Warblers' nests on the Alb were built unusually early, and were all destroyed by a flood. I have never heard the song of this bird before the 1st of May. The local German expression "to scold like a 'Rohrspatz'" (*i. e.*, a Reed Sparrow) probably has reference to its notes.—Mr. E. Barrington writes that he has obtained a nest of *A. turdoides* on the same river.—*A. phragmitis* is rather scarcer than in England.

Accentor modularis. Relatively uncommon.

Cinclus aquaticus. Generally distributed along the mountain streams of the Schwarzwald. Two, that had apparently lost their bearings, were obtained at Karlsruhe.

Acredula caudata may be the commoner form.—I have only identified *A. rosea* for certain. It keeps to the tops of trees, occasionally visiting the town. Referring to the question of the height at which the nests are situated, the highest I have seen was some twenty-five feet up, the lowest actually touching the ground, on a bank among the roots of a tree.

Parus ater and *major* occur in about equal numbers. This genus would increase more in the neighbourhood of Karlsruhe, as the surroundings are favourable so far as food-supply and immunity from its usual enemies are concerned, but unfortunately the number of nesting-sites is limited.—*P. palustris* is also not rare; a nest I looked into at Eggenstein, about one foot from the ground, was composed of hare's fur, and the eggs were carefully concealed under old leaves, presumably for protection against weasels, &c.—*P. cæruleus* and *cristatus* occur at present in almost reversed proportions in the Hardwald, and I have elsewhere observed the identical phenomenon, viz., numerous appearance of *cæruleus* coupled with a marked decrease of *cristatus*. I daresay the more errant, independent, and *fin-de-siècle* disposition of the former has something to do with the change.

Sitta cæsia is similarly increasing, and not only near Karlsruhe. During the breeding season it retires to nesting quarters, mostly on the summit of old oaks, and its erratic notes are not heard for some time. One nest I observed occupied an old Woodpecker-hole in a pine tree, and was formed exclusively of thin transparent strips of pine bark, which must have taken very long to collect. On another occasion the chosen hole, being of inconvenient size, was plastered up: this proceeding attracted the attention of a pair of Great Tits, who were so pleased with the alteration, that they forcibly entered into possession as soon as it was completed. The diet of the Nuthatch is almost omnivorous, and largely sought on the ground, as can be seen in winter, when the smallest snowfall—but never frost alone—is sufficient to drive it to one's windows. In the case of one Nuthatch I shot, the upper mandible of the beak, instead of fitting on to the lower one, diverged at an angle: many analogous malformations have

been recorded, and a Starling in my collection has the upper mandible curved upwards, so as to be entirely useless. Unless these birds were fed by others, it is a marvel how they could survive with such imperfections.

Troglodytes parvulus. Somewhat rarer than in England. Schlosspark.

Motacilla alba. The commonest of its genus near Karlsruhe. It nests in huts on the "Exercierplatz," and in the cabins of the baths at Maxan on the Rhine, and uses feathers as lining, whereas *lugubris* prefers hair.—*M. melanope*. On all streams on the hills, and quite close to Karlsruhe (Hohenwettersbach, &c.).

M. flava. Not rare. Nests along the Alb.

Anthus pratensis and *trivialis* are both scarce in comparison to England.

Oriolus galbula. Hardwald, and still commoner in the Rhine woods. I have never heard its melodious song before the beginning of May.

Lanius excubitor. Observed at all seasons of the year in the plains of Baden and the Bavarian Palatinate, but difficult to approach. Some may have been *major*.—I came across a nest of *L. minor* along a path in the Hardwald, and quite close to the town. It was four feet from the ground, and contained five eggs.—*L. collurio*. Universally distributed, even in the centre of the Rhine woods. It is said to be good eating (?).—*L. pomeranus*. Once observed, and that just outside Baden territory (at Tuttlingen), but common enough, to judge by the number of stuffed specimens one sees everywhere.

Ampelis garrulus. Near Grötzingen; was shot in some numbers in the gardens of Karlsruhe, in winter, 1885.

Muscicapa grisola prefers the oak trees of the "Wildpark." In the Hardwald it is supplanted by *M. luctuosa*, which generally arrives a few days earlier, and is common both here and in the "Schlosspark." In June, 1886, the Pied Flycatcher was especially numerous, but forced by the perpetual rain to look on the ground for its food (*vide* 'The Zoologist' of that month): this consisted principally at that time of the battered remains of those annoying green caterpillars that dangle from the trees by invisible threads at the exact height of one's face. In 1889, for some unexplained reason, *luctuosa* was much rarer. This species frequently ousts the Crested Tits and other birds from their

accustomed nesting-places.—*M. albicollis*. Observed once or twice. An egg, taken in the Hardwald, in size 18×12.5 mm., of pale blue-green colour, was given me as belonging to this bird.—*M. parva*. Mr. E. Barrington tells me that he observed a pair at the Titisee, near Freiburg.

Hirundo rustica. Commoner in the villages. Generally arrives the first week in April, leaving during the second week of October (the 26th of that month is quite an unusual date), and seems more regular in its arrival and departure than in England,—probably on account of the less capricious climate,—as also in its nesting habits. The Sparrow, in its semi-domesticated condition, has become quite careless in the latter respect, and this irregularity appears to be reflected, so to speak, in the uncertain colour, shape, and size of its eggs, that depart from the typical standard of the Tree Sparrow (as do those of domestic and cage birds, fowls, canary, &c.). The Swallow, also, now and then builds at the last moment,—clearly a modern habit, and a pernicious one for any migratory bird that has considerations for its offspring.

Chelidon urbica. Abundant.—*Cotyle riparia*. Formerly nesting along the "Stadtgraben," where it issues from the town of Karlsruhe. Common in old quarries and cuttings in the neighbourhood, but especially so on the Kaiserstuhl, whose "Loess" supplies an ideal material for excavation.

Certhia familiaris. Scarcer in the Rhine woods than the Hardwald. I have twice seen it settling on the ground, and was most surprised once, while watching a *Tichodroma*, to recognize close by, my familiar friend the Creeper, indulging in an amateur performance on the rocky surface, as if in imitation.

Carduelis elegans. With the clearing of woods and marshes many species of birds become scarcer, but this is counter-balanced by a proportionate increase of others, like the Sparrow, various Finches and Buntings—mostly of the seed-eating kind—that profit by the change, and are rather attracted than repelled by towns and cultivated fields. The Goldfinch, though much sought after as a cage bird, is no exception, being decidedly commoner than it used to be in Baden and elsewhere. Nests at Palmbach and Grötzingen; abundant also on the Kaiserstuhl.

Chrysomitris spinus. Black Forest; not rare.

Serinus hortulanus. Spreading northward throughout Ger-

many, and has been observed near Karlsruhe since the year 1818. Nests in the gardens and immediate neighbourhood of the town: eggs pale green with orange spots.

Ligurinus chloris. Hardwald and elsewhere. Plentiful.

Coccothraustes vulgaris. Schlosspark, Hardwald and Rhine-woods. Shy, but considerably increasing in numbers. Large flocks in February, 1888.

Fringilla cœlebs. On the Kaiserstuhl I noticed a curious Chaffinch's nest, built against the upright stem of a walnut-tree. It was supported solely by a piece of detached bark, and adaptively ornamented on the outside, exactly resembling a round excrescence in the wood. Hedges being absent in the country, many nests are constructed in low bushes, not more than five feet from the ground, and externally formed of green moss.—*F. montifringilla*. Sometimes visits the streets of Karlsruhe in winter, but not often. The peasants of the Bavarian Palatinate kill numbers of Bramblings—locally called Bö-hämmer—in winter, when they are in excellent condition, by observing where the flocks settle down to roost, and shooting them by torch-light with blowpipes and small bullets of clay, one by one, as they sit huddled together in rows. As each bird drops, its neighbour dreamily steps into its place and falls in its turn. The sport continues till one bird, not sufficiently stunned, gives the alarm.

Pyrrhula europæa. Common, especially in Schlosspark.

Loxia curvirostra. Frequently observed. The tenacity of life of this species has often struck me as unusually great.

Emberiza miliaria. Rarer than *E. citrinella*, which is one of the commonest birds.—*E. schoeniclus*. Eggenstein, Daxlanden, and other places near Karlsruhe.

Sturnus vulgaris. Wildpark and elsewhere.

Nucifraga caryocatactes. The few I have seen in the Black Forest, probably residents, were remarkably tame. Others, arriving in winter, may belong to the slender-billed form.

Garrulus glandarius. Generally distributed, but occasionally conspicuous by its absence in districts which it otherwise frequents (periodical migration?). There is a good deal of local variation in the pitch and tone of its voice. It imitates other birds—the Buzzard, for instance—to perfection.

Pica rustica. Rarer than in England, and more so near Karlsruhe than in the Rhine woods.

Corvus monedula. Kaiserstuhl, Freiburg.—*C. corone*. In Baden the Crow has modified its nesting habits, perhaps for greater security, and often builds in the centre of the densest woods, instead of in its usual conspicuous look-out positions.

C. cornix. A winter visitor, remaining pretty late sometimes. *A propos* of the Siberian hybrids of this and the preceding species, Kettner wrote, in 1849: "*C. cornix* and *corone* form only one species. My collection contains numbers of transitional types. The variety called Hooded Crow is not nearly so common as the black Carrion Crow. In December, 1846, a specimen was shot near Baden with the grey parts of the Hooded Crow black, and the black parts grey."—*C. frugilegus*. In the fields round Karlsruhe, in winter.—*C. corax*. Observed at the Schurm See, and near the Wild See, in the Black Forest.

Alauda arvensis. Plentiful. Some remain throughout the winter.—*A. cristata*. Much rarer in 1887, as the rains of the previous season had probably destroyed many broods. Frequent in the town in winter.

Cypselus apus. Generally arrives April 25th to 30th; my earliest date is the 17th of that month. Nests in Karlsruhe, under the eaves of the New "Kunstschule," and on the Kaiserstuhl, in quarries, promiscuously with Sand Martins.

Caprimulgus europæus. Not uncommon in the Hardwald. I have also heard it high up in the Schwarzwald (Kniefbis Pass).

Picus martius. In the Black Forest I have generally started this bird off the ground, where it seems to find more food than on the well-kept timber. I observed one in the Rittner-wald near Karlsruhe, and another one, quite close at hand, in the Wildpark; the latter was unfortunately shot by a gamekeeper.

Dendrocopus major. Common enough on pine trees, firs, and poplars. Nests in boxes nailed up for the use of Starlings, in the Hardwald.—*D. medius*. Schlosspark and elsewhere. Somewhat rarer, but more tame and sociable, than the preceding. By its knack of climbing up the thinnest branches of trees, it can be distinguished in any light from *D. major*.—*D. minor*. Observed in the Wildpark, and in gardens of the town. The females seem to preponderate numerically.

Gecinus viridis. Near Karlsruhe there is rather a deficiency of old trees, and ant-hills are few and far between; still there are generally one or two of these birds to be seen.—*G. canus*.

Commoner than might be supposed, principally near villages, in fields, orchards, and on the edge of beech woods, in company with Jays and Missel Thrushes.

Jynx torquilla. Abundant in Baden and the Bavarian Palatinate.

Alcedo ispida. Visits the lake of the Stadtgarten now and then, but generally leaves the same day. A pair breeds regularly on the Alb, on one or the other side of the Soldiers' bathing establishment, but the nests are seldom unmolested. They are very shy, and the young disappear from the district as soon as they can fly. Another pair haunts the "Bibersgrund" (Beavers' meadow), opposite Maxan, on the Rhine.

Upupa epops. Not rare in the plain on both sides of the Rhine. One pair comes every year to the Wildpark.

Cuculus canorus. Generally distributed. Occasionally lays in the nest of the Icterine Warbler.

Strix flammea. Observed once or twice; used to be frequent at Scheibenhard, near Karlsruhe.

Asio otus. Perhaps the commonest species. Hardwald, &c. The peasants imagine the hooting of Owls predicts rain, because they feel the approaching cold: a superstition like this is alluded to in an English nursery-rhyme.

Athene noctua. Also not rare.

Buteo vulgaris. Common, breeding in the Wildpark, but much persecuted. It is rather scarce in the Bavarian Palatinate.

Aquila clanga. I may record the capture of a specimen (as this has probably not been done) near Wiesloch, in the winter of 1887; it was afterwards sent to the Zoological Gardens of Karlsruhe.

Astur palumbarius. Observed several times, chiefly in autumn. An adult female was shot at Karlsruhe in 1886.

Accipiter nisus. More numerous than the Kestrel, at least near the capital, probably on account of its wariness and swift flight. It is seldom that these birds fly into one's hands, but such was the case with one, which was caught, while pursuing a Redstart, by a person in the street.

Milvus iclinus. Slightly rarer than the Buzzard.—*M. migrans*. A specimen from near Karlsruhe lived twenty-three years in confinement, and may be alive still.

Tinnunculus alaudarius.—I am told the country people, in

parts of the Black Forest, protect the Kestrel, and acknowledge its usefulness by allowing it to build on their houses.

Pandion haliaëtus. I noticed two pairs on the Rhine, between Schaffausen and Constance, in 1886.

Phalacrocorax carbo. Maxan; once observed.

Ardea cinerea. Occasionally visits the Stadtgarten lake, and the meadows at Gottesau, close by. There is a heronry near Oos; but I could form no estimate of the number of nests, for they were out of sight, on the summit of high firs. Another colony on the Neckar, I believe, was founded long ago by some emperor expressly for the purposes of falconry.*

Botaurus stellaris. A good number of this class of birds are still obtained, principally during the Snipe season. A migrating Bittern was caught—in 1886 I think—in an exhausted condition, in a stable not far from Karlsruhe.

Ciconia alba. Not so familiar as in some parts of the continent, though most villages possess one pair, the Storks arrive early, in the latter part of February, and lose no time in arranging and re-arranging the materials for their nests, the foundation of which is usually an old cart-wheel. I once noticed quite an unusual number of them (twenty-nine) collected together on some flooded meadows near Gottesau. One stork used to live in the streets of Karlsruhe, and was remarkably tame, till somebody took the liberty of painting his legs blue, since which time it has not been heard of.

Anas boschas. Large flocks of this and other species pass over the town in winter; I have not had an opportunity of seeing any of them at close quarters, but a glance at Kettner's list will show that the country has a surprising variety of visitors, natatory as well as grallatorial.

Columba palumbus and *C. ænas*. Both appear slightly on the increase.

Turtur communis. More plentiful in the Bavarian Palatinate.

Phasianus colchicus. In parts of the Hardwald and Rhine woods (Forchheim). The call-note differs a little from that of the English bird.

Perdix cinerea. Common in the plain.

Coturnix communis. In fields near Beiertheim.

Tetrao bonasia. Appears to be well-nigh extinct in most

* The truth of this supposition might be ascertained possibly by reference to the archives preserved at Heidelberg.—Ed.

parts of the Schwarzwald, like the Blackcock already is. I saw a specimen shot not many years ago at Lautenbach.—*T. urogallus*. Pretty abundant in certain localities, as at Rippoldsau and Wildsee. The derivation of the German name "Auerhahn" seems puzzling. Many older authors call the bird "Ohrhahn," on account of its "red ears," but this may be popular etymology. Some, including Grimm, I think, derive the word from "Aue," signifying wood ("cock of the wood"); others think it is connected with an old affix "ur" (cf. "ur wald," &c.), meaning "great," and therefore referring to its size. When the ancient term "Der Ur" (Auerochs) became less familiar in proportion as the animal died out, the impression of it may have been revived by adding "ochs," and thus "Urochs" and "Urhahn" have been unconsciously brought together. Tschudi says the latter form was exclusively employed during the Middle Ages.

Crex pratensis. Occasionally heard on the hills.

Gallinula chloropus. Not rare on the lower parts of the Alb.

Fulica atra. Forchheim.

Glareola pratincola. I once observed this bird on the Alb, not far from Karlsruhe; it is popularly called "Himmelsziege" (Air-goat), in allusion to its peculiar notes and upward flight.

[This observation seems misapplied, and refers doubtless to the Common Snipe, the old name for which in England is "heather-bleater," bestowed upon it from the peculiar sound which it makes during the breeding season, while on the wing. If a bird is "popularly called" by any particular name, we are to infer that it is common enough to be popularly observed; but this does not seem to be the case with the Collared Pratincole in the district referred to.—ED.]

Vanellus vulgaris. At Eggenstein, and sometimes on the fields near Karlsruhe.

Gallinago caelestis. Both this and the Jack Snipe are not rare below Eggenstein.

Tringoides hypoleucus. On the Rhine, as well as along all the rivers of the Black Forest.

Sterna fluviatilis. The Common Tern and the Black-headed Gull are frequently to be seen near Maxan. Kettner enumerates twenty species of Gulls and Terns in his list.

Podicipes fluviatilis. Observed once or twice on the Lower Alb. All the Grebes are said to occur in this district.

A LIST OF BIRDS OBSERVED AT TOOTING-BECK COMMON, NEAR LONDON.

By F. W. FROHAWK.

HAVING resided in this neighbourhood during the last seven years, and kept an accurate account of the birds observed in the immediate vicinity by my brother and myself, I think the following list may be of interest, considering that the locality is but five miles from Charing Cross. The species followed by an *n* have been found nesting:—

- | | |
|-------------------------------------|--------------------------------|
| 1. Sparrow Hawk. | 32. Tree Pipit. <i>n</i> . |
| 2. Kestrel. | 33. Meadow Pipit. |
| 3. Barn Owl. <i>n</i> . | 34. Sky Lark. <i>n</i> . |
| 4. Red-backed Shrike. | 35. Yellow Bunting. |
| 5. Spotted Flycatcher. <i>n</i> . | 36. Chaffinch. <i>n</i> . |
| 6. Missel Thrush. <i>n</i> . | 37. Sparrow. <i>n</i> . |
| 7. Fieldfare. | 38. Hawfinch. |
| 8. Song Thrush. <i>n</i> . | 39. Greenfinch. <i>n</i> . |
| 9. Redwing. | 40. Goldfinch. |
| 10. Blackbird. <i>n</i> . | 41. Linnet. |
| 11. Hedge-sparrow. <i>n</i> . | 42. Lesser Redpoll. |
| 12. Robin. <i>n</i> . | 43. Bullfinch. |
| 13. Redstart. <i>n</i> . | 44. Starling. <i>n</i> . |
| 14. Stonechat. <i>n</i> . | 45. Carrion Crow. <i>n</i> . |
| 15. Whinchat. <i>n</i> . | 46. Rook. <i>n</i> . |
| 16. Wheatear. | 47. Jackdaw. |
| 17. Sedge Warbler. | 48. Jay. |
| 18. Nightingale. <i>n</i> . | 49. Green Woodpecker. |
| 19. Blackcap. <i>n</i> . | 50. Lesser Spotted Woodpecker. |
| 20. Garden Warbler. <i>n</i> . | 51. Wryneck. <i>n</i> . [n.] |
| 21. Whitethroat. <i>n</i> . | 52. Tree Creeper. |
| 22. Lesser Whitethroat. <i>n</i> . | 53. Wren. <i>n</i> . |
| 23. Willow Warbler. <i>n</i> . | 54. Nuthatch. <i>n</i> . |
| 24. Chiffchaff. <i>n</i> . | 55. Cuckoo. <i>n</i> . |
| 25. Golden-crested Wren. <i>n</i> . | 56. Kingfisher. |
| 26. Great Tit. <i>n</i> . | 57. Swallow. <i>n</i> . |
| 27. Blue Tit. <i>n</i> . | 58. House Martin. <i>n</i> . |
| 28. Coal Tit. <i>n</i> . | 59. Sand Martin. April 4th, |
| 29. Marsh Tit. | 60. Swift. <i>n</i> . [1894.] |
| 30. Pied Wagtail. | 61. Nightjar. |
| 31. Yellow Wagtail. | 62. Woodpigeon. <i>n</i> . |

- | | |
|-----------------|--------------------------------|
| 63. Stock Dove. | 70. Herring Gull. |
| 64. Pheasant. | 71. Common Gull. |
| 65. Woodcock. | 72. Bar-tailed Godwit, and |
| 66. Water Rail. | 73. Curlew. March 25, 1894, |
| 67. Water Hen. | 11 p.m. |
| 68. Wild Duck. | 74. Wader, sp. not determined. |
| 69. Teal. | |

The Bar-tailed Godwit and Curlew I heard passing over, apparently a large flight from their cries, going north-east.

Every spring and autumn, during night-time, a bird is heard—probably some kind of wader—that utters continually a short note repeated four times in quick succession, greatly resembling in tone the note of a child's squeaking toy. From the direction of sound it apparently flies about in an aimless manner, and often appears to be circling round, especially on dark stormy nights. Once at midnight, while crossing the Common, I flushed one by a clump of furze; it rose quite near me, but I was unable to see it, for the night was very dark. It called immediately it rose, and from its notes appeared to take a zigzag line of flight.

What species it is I have as yet been unable to discover, although I have frequently made enquiries of my ornithological friends. It is certainly abundant during migration. I have heard the notes annually since 1877, in which year I first noticed them on a very stormy August night, during a thunderstorm, when the bird which uttered them was heard calling in all directions, and appeared to be flying wildly about.

[The description of the flight, and the short note, repeated three or four times, remind us of the Common Sandpiper, *Tringoides hypoleucus*, which would be a spring and autumn migrant in the neighbourhood referred to.—ED.]

WILD BIRDS PROTECTION ACT (1880) AMENDMENT.

THE following is the text of the Bill which has been re-introduced into Parliament during the present session by Sir Herbert Maxwell, Bart., M.P., and which has for its object the protection of eggs.

Memorandum.—The present Bill differs from a Bill on the same subject which the House of Commons passed through all

its stages last year in that certain amendments made therein in the House of Lords are incorporated as alternative to the original provisions. Under the Bill as it is now presented, County Councils are empowered to apply for an order—

- (1). For the prohibition of taking eggs within specified areas ;
- (2). For the prohibition of taking the eggs of named species of birds ;
- (3). For the addition of any bird, not included in the schedule of the original Act, to the said schedule.

A BILL TO AMEND THE WILD BIRDS PROTECTION ACT, 1880.

Whereas it is expedient to provide for the better protection of certain species of wild birds in the United Kingdom :

Be it therefore enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same as follows :

1. This Act may for all purposes be cited as the Wild Birds Protection Act, 1894, and shall be construed as one with the Wild Birds Protection Act, 1880 (hereinafter referred to as "the principal Act"), except as hereinafter provided.

2. A Secretary of State may, after the *passing of this Act*, upon application by the County Council of any administrative county by order prohibit—

- (1). The taking or destroying of wild birds' eggs in any year or years in any place or places within that county ; or
- (2). The taking or destroying the eggs of any specified kind of wild birds within that county or parts thereof, as recommended by the said County Council and set forth in the said order.
- (3). The application by the County Council shall specify the limits of the place or places, or otherwise, the particular species of wild birds to which it is proposed that any prohibition in the order is to apply, and shall set forth the reasons on account of which the application is made.

3. A Secretary of State may, on the representation of the council of any administrative county, order that the principal Act shall apply within that county or any part or parts thereof to

any species of wild bird not included in the schedule of that Act, as if that species of wild bird were included in the schedule of that Act, and on the making of such order that Act shall apply accordingly.

4.—(1). The council of an administrative county shall in every year give public notice of any order under this Act which is in force in any place within their county during the three weeks preceding the commencement of the period of the year during which the order operates.

(2). Public notice under this section shall be given—(a). As regards each place in which an order operates, by advertising the order in two local newspapers circulating in or near that place; (b). By fixing notices of the order in conspicuous spots within and near each place in which the order operates; and (c). In such other manner as the Secretary of State may direct, or as the council may think expedient, with a view to making the order known to the public.

5. Any person who, after the *passing of this Act*, shall take or destroy, or incite any other person to take or destroy—(a) the eggs of any wild birds within any area specified in the order; or (b) the eggs of any species of wild bird named in the order, shall, on conviction before any two justices of the peace in England, Wales, or Ireland, or before the sheriff in Scotland, forfeit and pay for every egg so taken or destroyed a sum not exceeding *one pound*.

6. Any expenses incurred by the council of a county under this Act may be defrayed by that council as expenses for general county purposes within the meaning of the Local Government Act, 1888 (51 & 52 Vict. c. 41), or, so far as respects Scotland, the Local Government (Scotland) Act, 1889 (52 & 53 Vict. c. 50).

7.—(1). This Act shall apply to Scotland with the substitution of the Secretary for Scotland for a Secretary of State.

(2). This Act shall apply to Ireland, with the substitution of the Lord Lieutenant for a Secretary of State, and of the grand jury for the council of an administrative county, and any expenses incurred in carrying this Act into effect in Ireland shall be defrayed out of the grand jury cess.

Writing in 'The Times' of the 13th April last, Mr. T. Digby Pigott thus criticises the provisions of this Bill, and gives an abstract of the Dutch laws which affect the protection of wild birds' eggs:—

"By common consent it is desirable, if our rarer species of birds are to be saved from possible extinction, that their eggs should be protected. As to the manner in which such protection can best be secured doctors differ, and it is by a process of elimination that we are most likely to arrive at a satisfactory conclusion.

A general protection of all wild birds' eggs is admitted by every one to be out of the question, and, in the opinion, I think, of most who have given attention to the subject, the likeness of the eggs and breeding habits of many common and rare birds makes any discriminating law which would protect the eggs of certain species and leave those of others unprotected scarcely less impracticable.

A proposal made in an early stage of the agitation, that eggs might be legally collected if taken for food, but not for any other purpose, was disposed of by Bishop Wilberforce, who convinced the House of Lords that it would be unreasonable to compel 'a man of science' to prove his right to keep a treasured egg in his collection by eating it.

A later proposal is Lord Walsingham's, made last session, for the establishment of 'sanctuaries' where birds nesting should be a crime within a charmed line, though legal outside. Excellently as such an arrangement may work in an undeveloped country—as applied, for instance, by Lord Onslow's Government to 'the Little Barrier' and another outlying island of New Zealand—it is scarcely, perhaps, so well suited to the conditions of life and property in crowded England. Squire A and Lord B, if they are sensible men, might not object to their adjoining properties being placed on different footings; but Tom Smith, with a cottage on this side of the brook, would find it a little difficult to appreciate the justice of a law under which his boy has to go before them as magistrates for taking a nest, while Bill Jones's boy, just over the bridge, strings eggs by the dozen without a word from the policeman.

I venture, with all deference to one of our highest authorities on matters connected with natural history, to think that a better remedy is to be found in another direction.

Our practical neighbours in Holland have had the same difficulty to face as ourselves, and have met it effectively by simple, and, as I have been assured, popular laws, based on the common-sense principle that—common law notwithstanding—a man has as much right to protect the eggs laid on his ground as he has to protect his gooseberries, and that any one taking the one or the other without his leave is equally worthy of punishment.

In case you should think them just now of sufficient interest to be worth publication, I enclose two translations, the one an extract from the Dutch Game Law, the other an Act now in force in Holland 'for the preservation of animals of service to agriculture and woods.'

Extract from the Dutch Game Law of June 13th, 1857 :—

'Article 22.—It is forbidden to search for or to collect, to expose for sale, or to carry away the eggs of wild birds. This prohibition does not refer to the eggs of wild ducks, nor, during the months of February, March, and April, to the eggs of Divers, Waterhens, Snipe, Curlews, Sandpipers, and Plovers, or of Pewits, if the searching and collecting is undertaken in company of the proprietor or rightful owner, or with a written permit from the latter, to be shown on demand of any one of the officers appointed to carry out this law. The buying, exposing for sale, or removal of the eggs of Pewits is allowed up to and on May 5th.'

Dutch Law of the 25th of May, 1880, for the protection of species of animals useful for agriculture or woodcraft :—

'Article 1.—It is forbidden to catch, to kill, to remove, to offer for sale, to sell, to supply, or to possess for the purpose of delivery for sale mammals or birds living wild, which are useful for agriculture or woodcraft.

Article 2.—Of the birds referred to in Article 1 it is forbidden :—(1) To remove, destroy, carry away, offer for sale, sell, deliver, or keep in readiness for delivery the eggs. (2) To disturb or destroy the nests.

Article 3.—A list will be drawn up and issued showing what mammals and birds shall be considered, either for all time or for a section of the year, as being useful for agriculture or woodcraft. This list will be obtainable from our Commissioners in the provinces.

Article 4.—The Minister is empowered, on special occasions for a scientific purpose, to exempt certain persons from the penalties attached to infraction of one or more of the clauses of Articles 1 and 2.

Article 5.—The capture or slaughter of the animals referred to in this law, when they are found on isolated private property, such as gardens, crofts, or orchards, is permitted to the owner and employer of the ground, and can by them be made over to a third party. The same exception

applies to the removal, disturbance, or destruction of eggs. By isolated property is meant what is surrounded to the height of at least a mètre by a wall, hedge, screen, fence, or trellis, or surrounded to the breadth of at least two mètres by a ditch of a depth of at least 1 mètre 50 centimètres below the surface of the ground.

Article 6.—Except in the cases described in Articles 3, 4, and 5, all infractions of Articles 1 and 2 will be punished by a fine of from 50 cents to 20 guildens. The repetition of the offence within two years, or repeated cases, may be punished by a double *maximum* fine, or by imprisonment of at least one day and at most seven.

Article 7.—On each offence, the dead or captured animals, together with the eggs, and all objects by which the offence was committed, shall be seized. Living animals will be set at liberty. The dead animals and the eggs will be given to the officials to be destroyed.

Article 8.—The carrying out of this law is administered by the officers of the Royal or communal police, and by the officials of the Treasury."

NOTES AND QUERIES.

The late John Jenner Weir, F.L.S., F.Z.S., F.E.S. — It is with much regret that we have to notice the death of this ardent naturalist, in his seventy-second year, on the 23rd March last. Mr. Jenner Weir was born at Lewes in August, 1822. He early displayed a keen love for Natural History, and with his brother, Mr. Harrison Weir, kept a multitude of living creatures, at one time having no less than a hundred different species of vertebrates in captivity. The scientific spirit manifested itself in careful observation of their habits and in experimental breeding. In 1840, it would seem from his diary, that he had definitely turned his attention to Ornithology, but this was merely an indication of the growth of his love for Natural History generally, for in 1844 we find him "treacling" the palings of the garden at Camberwell, whither his parents had removed from Lewes in 1831. In 1845 his first note was published; it appeared in 'The Zoologist,' and clearly shows the close and accurate observation and spirit of scientific enquiry which continued his habit throughout life. The note is on an entomological subject, and the few observations from his pen which are scattered throughout the volumes of 'The Zoologist' are indiscriminately entomological and ornithological. But while these were his chief hobbies, he took all nature for his province, and no branch of Natural History was without interest to him. He was a sparing writer, putting his observations into the most concise language and the fewest words; indeed he had a vast store of knowledge that the world would gladly

have shared, but which unfortunately he did not publish. In 1845 he was elected a member of the Entomological Society of London, and formed many friendships amongst the entomologists of the time, of whom but very few remain. It was not until 1869 that his first paper was contributed to the Society. He had worked assiduously for many years at the Micro-Lepidoptera, but in 1868 he undertook a series of experiments on the relation between insectivorous birds and the colour and edibility of Lepidoptera and their larvæ. This paper was the outcome of these experiments, and a second followed. With Darwin he was in regular correspondence, and frequent reference is made to these experiments in the 'Descent of Man' and other of Darwin's works. His later writings have appeared principally in 'The Entomologist,' the last of them being published in the number for April, which contained, alas! the announcement of his death. He became Vice-President and Treasurer of the Entomological Society, and Fellow of the Linnean, Zoological and Royal Horticultural Societies, and was a member of the South London Entomological Society from its commencement. He was an active member of the Finance Committee of the Zoological Society, and was on the Scientific and Narcissus Committees of the Royal Horticultural Society, where he was a regular attender at the fortnightly exhibitions. His love of gardening found room to develop after his removal to Beckenham, and it was a pleasure to go round the shows with him, and hear of his plants, and how many of them had especial interest from their connection with different friends, or with places he had visited. At one time he and his friend Edward Newman used to spend their Saturday afternoons at the Zoological Gardens, the interest of such visits being perhaps all the greater from the fact that their opposite views on the Darwinian theory gave rise to frequent philosophical argument. Mr. Weir entered the Customs Service in 1839, and remained until 1885; in 1874 he became Accountant and Controller-General, having climbed from the bottom to the top of the tree; his promotion gave universal satisfaction in the Civil Service. He used to allude to his own life as an illustration of the advantage of persevering steadily at one thing in spite of all temporary hardships and discouragements. Always kindly and tolerant with young men, he was especially ready to help them in science, and thus he took great interest in the South London Entomological Society, of which he was for several years President or Vice-President, from time to time communicating various papers. The love of Nature was to him, he said, a passion; he thought deeply, and spoke of what he knew and loved; so that his conversation was an education and a delight. A wide circle of friends will mourn his loss.

MAMMALIA.

Habits of the Badger.—In neither the Editor's very interesting article on the Badger (*Zool.* 1888, p. 1) nor in Bell's 'British Quadrupeds,' do I find mention of a circumstance that came under my observation on the 9th April last. There are a good many badger-earths in Curraghmore, the demesne of the Marquis of Waterford, in my parish, and while examining one of these, a hole near the entrance of a very large burrow was pointed out to me by the head gamekeeper. This hole was partially filled with the excrement of the Badgers, and was evidently the place that was constantly used by them for the purpose. The whole surroundings of the burrow were perfectly clean. It is, I believe, well known that Badgers are very cleanly animals. An instance of this is given in the Editor's article (p. 7), and I think the circumstance I have mentioned confirms their character in this respect. Mr. Gordon, the gamekeeper, told me that he had often seen places of the kind near the entrance of badger-earths, but it was, I confess, a new experience to me.—WILLIAM W. FLEMING (Coolfin, Portlaw, Co. Waterford).

[Some years ago, when staying on a visit with Mr. Assheton Smith, at Vaynol, North Wales, where Badgers are not only plentiful, but are strictly protected, our attention was particularly directed to the trait above referred to, and during our rambles in the woods we had ocular demonstration of the truth of it. We remember, too, the amusement of our host on our remarking that it was evident the Badger was the original inventor of the "earth-closet," though modern patentees had sought to deprive him of the credit which properly belonged to him.—ED.]

The Badger: its period of gestation.—On April 7th, 1893, a female Badger was trapped at the mouth of its "earth" in Isell Woods, and after having been kept in close confinement for twelve months she gave birth, during the first week of April, 1894, to two young ones. Is not this an unusual occurrence, for no other Badger is known to have had access to her during her captivity?—J. R. DENWOOD (Kirkgate, Cockermouth).

[The average period of gestation in the Badger is believed to be about twelve months, but instances are on record in which these animals have produced young after being in confinement for thirteen and even fifteen months. A good deal of evidence on the subject will be found in 'The Zoologist' for 1888, pp. 12, 13.—ED.]

Black Rats on Ships in Port.—The man from whom the Black Rats were obtained is a professional ratcatcher. He lives at Birkenhead, near Liverpool, and makes his living by catching rats on the large rice and grain ships when they are in port. Those lately taken were caught on the s.s. 'Clan Ronald' while she was lying in a dock at Birkenhead. The 'Clan Ronald' had shortly before arrived from Bombay, and had a cargo

of grain and seed aboard. The rats which the ratcatcher caught on this ship were all black ones, and he believes that there were none of the ordinary brown ones there, for he never either caught or saw any, though he says that he has seen both sorts together on other ships. They are very fond of warmth, and remain on the ships, whatever the cargo may be. He catches them in round cage-traps with a special kind of bait, but he would not say what it was. The tail of the Black Rat is—so he says—always half-an-inch longer than its body, and its ears are exceptionally thin. They breed very freely. I remember that the man from whom I used to get them in London told me that he used to catch them on the different ships in the London Docks.—F. H. MILLS (Red Hill, Beaumaris, Anglesea).

Barbastelle in Northamptonshire.—A solitary specimen of the Barbastelle, *Synotus barbastellus* (Keys. & Blas.), was found under the loose bark of an old elm, at about twelve feet from the ground, near Pilton, Oundle, on March 22nd, and was brought to me alive. This species is recorded by Jenyns (Manual Brit. Vertebrates, 1835, p. 29) to have occurred in this county, but the present is the first that has come into my possession therein. I may mention that of the eight species of bats hitherto recorded as having been found in Northamptonshire, I have now handled living specimens of six. The remaining two not yet found by me are *Vespertilio daubentonii* and *V. emarginatus*. I have good reason to believe that the Serotine, *Vesperugo serotinus*, is to be found in our neighbourhood, but up to the present I have no proof of its existence here.—LILFORD (Lilford Hall, Oundle).

Bearded Seal on the Norfolk Coast.—In my note on the above occurrence (p. 82), I stated that "the mounted skeleton of this animal would in due course be placed in the Cambridge Museum" of Zoology. A letter which I have just received from Mr. Harmer, I regret to say, necessitates the modification of this statement, for he informs me that the skeleton is not complete enough to be worth articulation, but that the separate bones will be kept there, and their origin properly recorded in the Catalogue.—T. SOUTHWELL (Norwich).

The Marten in Ireland: Corrigenda.—P. 136, Co. Meath, *for* Dawes *read* Dames, and so throughout the article; Co. Wicklow, *for* Seeper *read* Leeper. P. 137, Co. Carlow, *for* P. W. Trim *read* P. W. Finn. P. 138, Co. Wexford, *delete* young before Marten; and *for* copse *read* open. P. 141, Co. Galway, *for* Ahascough *read* Ahascragh. Correspondents should write proper names more distinctly.

BIRDS.

Woodcock breeding in the Lake District.—If you will kindly allow me, I would like to add a little to what has already been stated (pp. 112, 152) on Woodcocks breeding in the Lake District. Last year, in Isell

Woods, which are five miles from Cockermouth, I knew of three nests. In these woods a few pairs have bred for several years. The nests were, without an exception, placed beneath low bushes on high dry ground. During incubation the birds allowed me to approach closely to them. The same year, in a wood within half-a-mile of Cockermouth, I also knew of a nest which contained four eggs, but they were destroyed.—J. R. DENWOOD (Kirkgate, Cockermouth).

As two recent notes (pp. 112, 152) may give rise to the impression that Woodcocks only nest *sparingly* in the Lake district, and that this is a development of recent years, it may be worth while to quote the following passage from the Rev. H. A. Macpherson's excellent 'Fauna of Lakeland': "Those of us who have grown up within the last thirty years, during which the Woodcock has been generally recognized as breeding abundantly both in England generally and in the Lake district in particular, are hardly competent to understand the interest which attached to the nesting of the Woodcock early in our own century." Mr. Macpherson further states that T. C. Heysham was aware of the fact that Woodcocks nested in the district in 1831, and that the eggs were actually found near Carlisle in 1837. So commonly do Woodcocks nest with us in Furness, that, though only at home at intervals, I have on two occasions seen a Woodcock carrying one of her young ones as described in 'The Zoologist' for 1879 (p. 433). In one of these instances the burden must have been heavy, for, on hunting for the rest of the brood, I put up one of the young birds, which was sufficiently fledged to be able to fly away. The whistling and croaking of Woodcocks during their evening flight is almost as familiar to us in Lancashire as the drumming of Snipe, or the call of the Curlew. Richard Holme, a local gamekeeper and an excellent observer, informs me that he has heard a peculiar sound at night, which he attributes to a Woodcock keeping her brood together. Can anyone confirm this belief? He has frequently caught Woodcocks in steel traps set for rabbits.—CHARLES F. ARCHIBALD (Rusland Hall, Ulverston). [As the setting of spring traps for rabbits above ground is now prohibited by Section 6 of the Ground Game Act, it is to be hoped that Woodcocks will in future escape this danger.—ED.]

The Hawfinch in Epping Forest.—The Hawfinch is exceptionally abundant in Epping Forest this spring, and during a walk on the morning of March 12th I came across three large and noisy bands, each flock numbering from forty to fifty birds. Epping Forest has always been the home of this shy and interesting species, and the late Henry Doubleday was the first to notify its permanent residence and nidification in this country, from observations taken in this neighbourhood. During this same walk I identified no less than thirty-three species of birds,—a fair winter record for a district only twelve miles from London.—A. D. SAPSWORTH (Higham Lodge, Woodford Green).

"Cuckoo seen in March."—With reference to the note under this heading (pp. 150, 151), I would like to ask, "Is it at all probable that the bird in question was a Cuckoo?" Many times as I have seen Cuckoos, and observed their habits, I have never seen one fly along the bottom of a hedge, and then enter in the manner described. On the contrary, this is exactly what the Sparrowhawk often does when beating the hedgerows for prey. The Cuckoo almost always flies at some elevation, and alights in some conspicuous place; for example, the top of a stone heap, a fence-rail, or, if in a tree, on some large branch. Nor would the Cuckoo, which is an exceedingly shy bird, fly along as described in front of the observer. It is a far more likely assumption that the bird was a hawk than a Cuckoo that either survived the past very stormy winter in this country, or arrived on these shores more than a month before the usual time. Some years ago I observed a Cuckoo in the County Wicklow on April 7th, an exceptionally early date, and the bird then attracted my attention by its note.—ALLAN ELLISON (43, Cintra Park, Upper Norwood, S.E.).

I have not as yet ever seen a Cuckoo that was even supposed to have been obtained in this country before April; till I have seen a specimen positively sworn to by a competent person as so obtained, I shall remain, as at present, entirely incredulous.—LILFORD (Lilford Hall, Oundle.)

Having kept notes of the arrival of the Cuckoo in this country for more than thirty years I find the earliest to have occurred on the 6th April, 1844, but about the 14th is the more usual date. There is a saying in Sussex that it is turned out at Heathfield Fair, which is held on that day—the name of the village is rustically pronounced "Hevel."—WILLIAM BORRER (Cowfold, Horsham).

From numerous observations made by competent naturalists in different localities it appears that the usual time of arrival of the Cuckoo in this country is between the 20th and 27th April; and the average date of its appearance may be said to be on the 23rd of that month, St. George's Day. In no instance, so far as I am aware, has the bird been heard, or seen (by any competent observer) before the 6th of April. On that date in 1872 it was observed at Torquay, but this was considered by my informant an unusually early date at which to meet with it. April the 23rd is taken as the average for the whole of England and Scotland. In the South of England April the 15th would be nearer the date of its arrival. It is surprising how few people are to be trusted, either in the matter of *eyes* or *ears*, in regard to the Cuckoo. Many do not know a Cuckoo on the wing from a male Sparrowhawk, and others convince themselves that they have heard this bird's notes when they have been listening to a clever imitation by some village bird-nesting boy, or to the still more deceptive notes of a cuckoo-clock in a neighbouring cottage.—J. E. HARTING.

Such a bird as a "March Cuckoo" has no place in my experience. It

has struck me that where any attempt has been made to describe these early birds, the few and very vague particulars given have always appeared to indicate the plumage of the young bird, an obvious absurdity, but very suggestive of the Kestrel. I have now before me a table of "Indications of Spring," extending over a very long period, and kept by a succession of naturalists of the same family, and in the same parish; the date of the Cuckoo's first note is there recorded for 106 years, the earliest being on the 9th April, 1752, the latest on the 7th May, 1767, and the mean of the 106 years the 23rd April.—THOMAS SOUTHWELL (Norwich).

There is no inherent impossibility in *Cuculus canorus* arriving (from its winter quarters) in Great Britain a few weeks earlier or later than usual. In the North of Scotland we look for the arrival of this Cuckoo during the first days of May, fully a fortnight later than in the South of England. Experience teaches us that the bulk of species popularly termed "our summer migrants" are annually seen and heard in Southern Britain about the same date every year; but you may rest assured that irregularities are frequent.—H. A. MACPHERSON (Carlisle).

As to the Cuckoo, I have nothing much to add to what I have already published in my 'Birds of Oxfordshire' as to the date of its arrival. The Cuckoo seldom reaches North Oxon before the last week in April. In twelve years—1878–1889—the average date of my own observation of it has been the 27th or 28th. The earliest date is the 20th, in 1883. The dates of my observation of it since that work was published are—1890, April 26th; 1891, April 27th; 1892, April 29th. In 1893 I was abroad. In my "Notes on the Ornithology of Oxfordshire," in 'The Zoologist' for March, I mention a Cuckoo reported as heard last year on March 28th by a Mr. W. Wyatt, who is a birdstuffer, and ought not to be mistaken. I may add that I am not an unhesitating believer in March Cuckoos. But March at the date mentioned is almost out, and I am informed that the remarkable summer of 1893 had then already commenced, I think it possible that the observer was not mistaken. The appearance of a Cuckoo in the last days of March, in an exceptional season, is, however, quite another thing from the arrival of the bird in the first half of the month in a normal year.—O. V. APLIN (Bloxham, Banbury).

On referring to my son's diary, which I have before me, I find that the earliest record of the arrival of the Cuckoo during the last twenty years was on April 17th, 1875, and it is usually about the third week in April before it is seen here. Often have I been told "in March" that the Cuckoo had been seen or heard, but on investigation it proved to be a Kestrel which had been seen, or a boy imitating the Cuckoo that had been heard. It is surprising to hear the accuracy with which some boys can repeat the note of this bird, deceiving sometimes a well-practised ear.—JAMES CARTER (Burton House, Masham, Yorkshire).

I quite agree with you regarding the period of the Cuckoo's arrival. The earliest record I have is April 18th. I was talking lately to an old lady who is 82 years of age, and has lived here in the park for upwards of fifty years. Her husband was gamekeeper at Levens in the time of the late Hon. Mrs. Howard. During all those years she never saw or heard a Cuckoo in March. She told me that there was an old saying that the "Cuckoo never comes to the bare thorn." Strange to say I once shot a young Cuckoo as late as the 3rd of October.—J. HALL (Head Gamekeeper to Capt. Bagot, Levens Park, Milnthorpe).

Norfolk Notes; Corrigenda.—I shall be glad if you will make the following correction in my notes under this heading:—For "my duck-pond was visited by a Shoveller" read "the ducks on my pond were increased by the addition of a Shoveller."—J. H. GURNEY (Keswick, Norwich).

REPTILIA.

The size of British Newts.—In an article on this subject (p. 145), Mr. Boulenger alludes to his having captured sixty-six specimens in half-an-hour in some puddles. A description of the locality, which is well known to me, may be of interest. It was originally an extensive gravel-pit, which subsequently became a small lake. In this, no doubt, the Newts bred and thrived undisturbed for a number of years; their inaccessibility and seclusion, as also the large number Mr. Boulenger had to select from, will probably account for the fineness of the specimens mentioned. Last year the pit was filled in, and when the Newts once more resorted to their breeding-haunts they found but a few small pools, which proved little better than a death-trap for them. The whole of the specimens obtained were from two puddles, the combined superficial area of which did not exceed eight square yards. I again visited the spot on April 4th, and found numbers of dead Newts on the ground, while the majority of the remainder were blind and diseased, through the partial drying up of the water.—EDWARD DODSON (Taxidermist, Spring Grove, Hampton).

Palmated Newt at Scarborough.—On April 2nd I had the pleasure of identifying several specimens of the Palmated Newt, *M. palmipes*, which had been taken, with Common and Great Crested Newts, in a pond near Scarborough. The specimens included two males and two females, whilst many others were observed by their captor, Mr. Oxley Grabham. I believe I am correct in saying that this is the first record of this amphibian in the Scarborough district, although it has been reported from Whitby, twenty miles further north.—WM. J. CLARKE (44, Huntriss Row, Scarborough).

Palmated Newt in Herefordshire.—About the beginning of April last I obtained several of this species, together with the two commoner kinds, from a small pond in Edoin Woods, near Bromyard. So far as

I know, it has not been previously recorded as occurring in Herefordshire.—
F. L. BLATHWAYT (Bromyard).

SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

April 5th, 1894.—Mr. F. CRISP, Vice-President, in the chair.

Mr. L. Greening was admitted, and Messrs. W. C. Grasby, J. D. Haviland, J. Smith, and J. F. Wilkinson were elected Fellows of the Society.

Sir Joseph Hooker, K.C.S.I., C.B., exhibited a portrait in oils of Sir Samuel Bentham, Kt., a Colonel in the service of the Empress of Russia, painted at St. Petersburg in 1784. He was father of George Bentham, the distinguished botanist and former President of this Society, 1861—74 (Proc. Linn. Soc. 1886, pp. 90—104).

Mr. B. Shillitoe exhibited some specimens of a primrose having abnormal leaf-like bracts immediately below the true calyx, and found growing with ordinary flowers of the same species.

An exhibition of some trap-door spiders and nests, by Mr. F. Enoch, was deferred to a subsequent meeting.

Mr. R. H. Burne read a paper "On the aortic-arch system of *Sacrobranchus*," in which he elucidated the method by which respiration is effected in certain fishes which in tropical countries, but more especially in India, have acquired the power of living for a longer or shorter time out of water. Referring particularly to a paper by the late Surgeon-Major Francis Day, "On Amphibious and Migratory Fishes of Asia" (Journ. Linn. Soc., Zool., vol. xiii. p. 198), he detailed the results of some recent investigations he had made, and which were characterised by Prof. Howes as original and valuable.

The Secretary read a paper, by Mr. H. N. Ridley, "On the *Orchideæ* and *Apostaceæ* of the Malay Peninsula," from the Kedah state (long. 99° 30' to 104° 30' lat. 7° N.) to Singapore, including the islands adjacent to the west coast, and those on the east coast of Johore, with the addition of a few from Southern Siam, on the borders of the Malay Peninsula, the entire area comprising about 50,000 square miles. Mr. C. B. Clarke, who criticised the paper, commented upon the important additions made to the existing knowledge of the *Orchideæ* of this region, of which so large a portion was even yet botanically unknown.

April 19th.—Prof. STEWART, President, in the chair.

Sir Joseph Hooker exhibited a portrait in oils of Jeremiah Bentham, father of Jeremy and Sir Samuel Bentham, b. 1710, d. 1792.

Dr. Prior exhibited specimens of *Pinus pinsapo*, with undeveloped catkins, like berries, and other specimens of conifers in flower.

Mr. J. R. Jackson exhibited an Afghan knife, the sheath of which was bound with bark of *Carragana decorticans*, selected on account of its bronze-like appearance, and gave some account of the various native uses to which this bark is put.

On behalf of Mr. George Mayor and Mr. F. R. Maw, some photographs of abnormally-situated nests of the Robin were exhibited, one of which had been built upon a book-shelf in one of the studies at Tunbridge School, and another in an old tin tea-pot which had been flung aside as useless, and had lodged in a poplar.

Mr. B. Shillitoe exhibited and made remarks upon an abnormal hyacinth.

An account of British Trap-door Spiders was then given by Mr. F. Enock, and by the aid of the oxy-hydrogen lantern and some excellent slides, their appearance and mode of life were graphically delineated and described.

In view of the approaching Anniversary Meeting, the election of Auditors was next proceeded with, when Mr. Batters and Prof. Howes were nominated on behalf of the Council, and Mr. Michael and Mr. J. Groves on behalf of the Fellows.

In the absence of the author, Mr. George Murray gave an account of Graf zu Solms Laubach's Monograph of the *Acetabulariæ*, and the principal points were illustrated with lantern-slides. The limits of the group were defined as excluding *Dasycladeæ*, and containing the living genera *Acetabulariæ*, *Polyphysa*, *Halicoryne*, and *Pleisphysa*, of which the author maintained only the first and third named. The extinct forms, principally *Aciculariæ*, were dealt with very exhaustively, and their relation to the living ones indicated. The paper consisted of a morphological account of all the forms, as well as a detailed systematic review of them, and the author's views of the relationship of the group to the forms of *Dasycladea*, *Cymopolia*, *Neomeris*, *Bornetella*, &c., possessed much novelty and interest.

ZOOLOGICAL SOCIETY OF LONDON.

March 20th, 1894.—Prof. G. B. Howes, F.Z.S., in the chair.

The Secretary exhibited and made remarks on a photograph of a young male Indian Bison, *Bos gaurus*, proposed to be sent home as a present to the Society's Menagerie by Major G. S. Roden.

Mr. F. G. Parsons read a paper on the myology of the Hystricomorphine and Sciuricomorphine Rodents, and stated that it was based on the dissection of the muscles of examples of twenty-one species of Rodents, belonging to many families of the Hystricomorpha and Sciuromorpha, made at the

Society's Gardens. The results of these dissections had been compared with the writings of other observers, and arranged, firstly under the heads of the different muscles, and, secondly, under those of the different families. The arrangement of the muscles coincided in a marked manner with the usual classification of the order, and seemed to depend much more upon the affinities of the animals than upon their habits and mode of life. The muscles which seemed most characteristic of the two principal sections were the masseter, the long flexors of the foot, the sterno-scapular, and the digastric. Three genera of the *Dipodidae* had been examined, and were found to resemble the *Hystricomorpha* in many respects, while in others they approached the *Sciuromorpha* type.

A communication was read from Babu Ram Bramha Sányál, containing remarks on a rare carnivorous mammal of Borneo, *Cynogale bennetti*, based on a specimen living in the Zoological Gardens of Calcutta.

A communication was read from Dr. R. W. Shufeldt, containing an account of the osteology of certain Cranes, Rails, and their allies, with remarks upon their affinities.

A communication was read from Mr. O. V. Aplin, containing field-notes on the mammals of Uruguay, made during his recent expedition to that country.

April 3rd.—Sir W. H. FLOWER, K.C.B., LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the month of March, 1894.

Dr. Günther exhibited and made remarks on some specimens of the American *Lepidosiren*, *Lepidosiren paradoxa*, from the Upper Rio Paraguay, collected by Dr. Bohls.

Capt. H. G. C. Swayne, R.E., gave a description of the physical features of Somaliland, and an account of the expeditions he had made into the interior of that country during the past nine years, pointing out the localities in which the larger mammals were usually met with. The paper was illustrated by the exhibition of a large series of well-mounted heads of the various species of Antelopes and other animals of Somaliland.

Mr. O. Thomas read a paper on the Dwarf Antelopes of the genus *Madoqua*, in which three species from Somaliland were described as new, and named *M. swaynei*, *M. phillipsi*, and *M. guentheri*. A revised classification of the six known species of this genus of Antelopes was added.

Mr. R. T. Coryndon gave an account of his pursuit of the White or Burchell's Rhinoceros, *Rhinoceros simus*, in Mashonaland, and of the way he had obtained the specimens, which would shortly be placed in the British Museum, the Tring Museum, and the Cambridge University Museum.

A communication was read from Miss E. M. Sharpe, containing a list

of the Butterflies collected by Capt. J. W. Pringle, R.E., while on the march through British East Africa from Teita to Uganda. A new *Papilio* was proposed to be called *P. pringlei*, and a new genus and species of *Satyridæ* was named *Raphiceropsis pringlei*. Altogether examples of 134 species were obtained.

April 17th.—W. T. BLANFORD, Esq., F.R.S., Vice-President, in the chair.

Mr. Slater made some remarks on the possibility of breeding the African Mud-fish, *Protopterus*, in the Society's Gardens, and called attention to a recently-published paragraph, in 'Le Mouvement Géographique,' in which some account was given of the phenomena of reproduction of this Mud-fish, as observed by the French missionaries on Lake Tanganyika.

Prof. Karl von Bardeleben, of Jena, read a paper on the bones and muscles of the mammalian hand and foot, in which he explained his views on the rudiments of the sixth and seventh digits or rays. These rudiments, as he showed, are situated both on the inner and the outer borders of the hand and foot; they are present in nearly all the orders of mammals, especially in the lower forms, and are always provided with special muscles.

Dr. G. Herbert Fowler pointed out the characters of a new species of Sea-Pen of the family *Veretillidæ* from a specimen belonging to the Madras Museum, and proposed to call it *Cavernularia malabarica*. Dr. Fowler likewise exhibited and made remarks on an example of *Lidaria phalloides*, belonging to the same Museum.

Mr. F. E. Beddard described two new genera comprising three new species of Earthworms from Western Tropical Africa.

A communication was read from Mr. Oldfield Thomas, containing an account of a new Antelope from Somaliland, which he proposed to call *Neotragus rupicola*. Capt. H. G. C. Swayne, R.E., and his brother, Capt. E. Swayne, B.S.C., had discovered this Antelope during their recent explorations in that country, but had not been able to bring back specimens. Two skins and a frontlet, lately received by Capt. H. G. C. Swayne from his native hunters, had enabled Mr. Thomas to establish the species.—P. L. SOLATER, *Secretary*.

ENTOMOLOGICAL SOCIETY OF LONDON.

March 28th, 1894.—HENRY JOHN ELWES, Esq., F.L.S., President, in the chair.

Mr. Percy H. Grimshaw, of 58, Coniston Road, Edinburgh, was elected a Fellow of the Society.

Mr. McLachlan announced the sudden death, on the 23rd inst., of Mr. J. Jenner Weir, who joined the Society in 1845, and had been one of

its most regular attendants. He also commented on the scientific attainments of the deceased, and his social qualities. Mr. Goss and Mr. Merrifield also spoke of their long friendship with the deceased, and of the respect and esteem which they entertained for his varied knowledge and amiability of disposition.

Mr. W. Borrer, jun., exhibited a wasp's nest which had been built in such a way as to conceal the entrance thereto and to protect the whole nest from observation. He believed the nest to be that of *Vespa vulgaris* (cf. Proc. Ent. Soc. London, 1892, pp. xx and xxi). Mr. McLachlan and Mr. Blandford made some remarks on the subject.

Mr. G. F. Hampson exhibited a specimen of *Gaudaritis flavata*, Moore, from the Khâri Hills, and called attention to the existence in the males of this species, in the closely allied British species *Cidaria dotata*, Linn., and also in two Japanese species (*C. agnes*, Butl., and an undescribed species), of an organ on the under side of the fore wing, which he suggested might be for stridulation; this organ consisting of a small scar of hyaline membrane situated just below the middle of vein 2, which is much curved: this scar is fringed with long hair, and has running down its middle a row of sharp spines situated on the aborted remains of vein 1, and which is curved up close to vein 2; the spines would naturally rub against part of the costa of the hind wing, but no spines or unusual roughening seems to exist on that or on any of the veins on the upper side of hind wing against which they could strike; below the scar is situated a large shallow fovea or pit in the membrane, slightly developed in *dotata* and *flavata*, but much more prominently in the two Japanese species, and, should the organ prove to be for stridulation, would probably act as a sounding-board. Mr. Hampson said that in the Japanese species *C. fixreni* of Brem, exceedingly closely allied to *flavata*, the males have no trace of this organ; and he hoped that entomologists who have an opportunity of observing *dotata* in life would make some experiments on living specimens during the ensuing summer; probably confining males and females together would lead to some results. The President, Prof. E. B. Poulton, Lord Walsingham, and Mr. Hampson took part in the discussion which ensued.

The Rev. T. A. Marshall communicated a paper entitled "A Monograph of the British Braconidæ, Part V."

Mons. Louis Péringuey communicated a paper entitled "Descriptions of new Cicindelidæ from Mashunaland."

Prof. Poulton gave an account of his recent tour in the United States, and commented on the entomological and other collections contained in the American museums. Lord Walsingham, Mr. Hampson, and the President also made some remarks on the subject.

April 11th.—HENRY JOHN ELWES, Esq., F.L.S., President in the chair. Mr. F. W. Jones, of 63, Carlton Hill, St. John's Wood, N.W., and

Dr. William Steer Riding, B.A., M.D., of Buckerell, Honiton, Devon, were elected Fellows of the Society.

The Hon. Walter Rothschild exhibited male and female specimens of *Ornithoptera paradisea*, Stdgr., from Finisterre Mountains, New Guinea; *O. trojana*, Stdgr., from Palawan; *O. andromache*, Stdgr., from Kina Balu, Borneo; *Enetus mirabilis*, Rothsch., from Cedar Bay, Queensland; and a few other splendid species from the Upper Amazons. The President, Mr. J. J. Walker, Mr. Osbert Salvin, Lord Walsingham, Colonel Lang, Mr. Champion, and Mr. Hampson made remarks on the geographical distribution of some of the species and the elevation at which they were taken.

Mr. H. Goss exhibited, for Mr. G. A. J. Rothney, several specimens of a species of Hemiptera (*Serinetha augur*, Fab.), and of a species of Lepidoptera (*Phauda flammans*, Walk.), the latter of which closely resembled and mimicked the former. He said that Mr. Rothney had found both species abundantly on the roots and trunks of trees in Mysore, in November last, in company with Ants (several species of *Camponotus* and *Cremastogaster*). The Hemiptera appeared to be distasteful to the Ants, as they were never molested by them, and he thought that the species of Lepidoptera was undoubtedly protected from attack by its close imitation of the Hemipteron. Mr. Goss said he was indebted to Mr. C. J. Gahan for determining the species. A discussion followed on the mimicking species, in which the President, Mr. Waterhouse, Mr. J. J. Walker, Colonel Swinhoe, Mr. Hampson, and others took part.

Mr. J. W. Tutt exhibited (1) a typical specimen of *Lycana corydon*, captured in July, 1893; (2) a hybrid male (*L. corydon* and *L. adonis*), taken in copulâ with a typical female *L. adonis*, May 20th, 1893; (3) a typical male *L. adonis*, May 20th, 1893; (4) a female *L. adonis*, the pigment failing in one hind wing; (5) a pale var. of *L. corydon*, probably to be referred to var. *apennina* of Zeller, usually taken in Italian mountains, or var. *albicans*, H. S., taken in Andalusia. Mr. Tutt remarked that, of the first, Staudinger (Cat. p. 12) says "pallidior," of the latter "albicans." He also remarked that the hybrid retains the external features of the species *corydon*, but has taken on to a great extent the coloration of *L. adonis*. It was captured in copulâ with a female *L. adonis*, at a time when *L. adonis* was very abundant, and some weeks before *L. corydon* occurred (*vide* Ent. Record, iv. p. 230).

The question having been raised by the President as to the number of meetings of the Society which it was desirable to hold during the year, and the most convenient dates for such meetings, a long discussion on the subject ensued, in which Mr. Waterhouse, Mr. Salvin, the Hon. Walter Rothschild, the Rev. T. Wood, Mr. S. Stevens, the Rev. J. S. St. John, and others took part.—H. Goss, *Hon. Secretary*.

NOTICES OF NEW BOOKS.

Text-book of Zoology. Fifth Edition. Re-written and enlarged.

By H. A. NICHOLSON, Regius Professor of Natural History in the University of Aberdeen. 8vo. Blackwood & Sons, Edinburgh and London. 1894.

THIS volume, when compared with its predecessor of 1886, shows an increase of 13 chapters, 177 pages, and 94 woodcuts. This is found to be mainly due to extension of the section dealing with the Vertebrata, and more particularly of the chapters devoted to Pisces and Mammalia. These show an increase of 20 and 64 pages, or 100 and 120 per cent. respectively; an analysis which renders perfectly clear the author's special acknowledgments of indebtedness to the recently published work on the Mammalia by Sir William Flower and Mr. Lydekker. And further perusal of the work justifies the suspicion, which this circumstance arouses, that it is a compilation of mere text-book knowledge.

The faulty nature of the earlier editions of this treatise and its more advanced associate the 'Manual of Zoology,' has been in the past notorious; but their author, adhering to his original scheme with true British pluck, has so far emended and improved the succeeding issues, that both books are now presentable and reliable. Their chief weakness has all along been due to insufficient recognition of the study of development, and the leading novelty in the present volume is the incorporation of a chapter on "Reproduction and Development of Metazoa," presumably designed to overcome this. This chapter extends to 14 pages only, and deals in a most elementary and out-of-date fashion with the earliest stages of the developmental process.

Evidence is forthcoming that this work is primarily designed for the use of the horde of medical students who yearly flock to the Scottish universities, to come under the influence of a system, under which, time that might be better spent in the wards is devoted to lengthy courses in botany and zoology. In the progress of his career the Scottish medical student is subjected to a recurring diet of "Embryology," in both the purely scientific and strictly professional departments of his study. We question, however, whether the "too many cooks" do not here spoil the (embryological) broth, and whether the

educational value of the science is not, by the means adopted, lost. The facts which have provoked us to this expression of opinion appear to have weighed with the author in the limitation of his new chapter, but this is so sketchy and insufficient, and in part so erroneous, that it might well have been left over until recast and extended. The "biological" discipline, as understood south of the Tweed, appears to us unquestionably the right one for the medical student, so over-crammed and under-educated. So long, however, as this remains insufficiently recognized on the northern side of the border, it is better that the student should obtain a knowledge of facts concerning things that are and have been, such as he will find treated in a sound and uniform manner in the book before us, than that he should be led astray by profitless speculation concerning possibilities which may (or may not) have occurred, in the fashion of certain other "text-books" which might perchance fall in his way. The system upon which we have commented is bad; the book, written up to it, although in many respects antiquated and by no means free from error, is withal sound and well-balanced, so far as it goes.

The Partridge. Natural History by the Rev. H. A. MACPHERSON; Shooting by A. J. STUART WORTLEY; Cookery by GEORGE SAINTSBURY. 8vo, pp. 276, with Illustrations. London: Longmans, Green & Co. 1893.

THIS is the first volume of a new series treating of the furred and feathered game of Great Britain, and edited by Mr. A. E. Watson. The title above quoted shows the divisions of the subject, the novel feature being the section on Cookery; and after all, when we consider the enormous quantity of game which is killed annually throughout the United Kingdom, it is as well to have some authoritative advice as to the best means of utilising it. Under the guidance, then, of the above-named writers, we are made pretty well acquainted with almost all there is to be learnt concerning this most popular of game-birds. Finding him at early dawn in his proper haunts, we follow him, with Mr. Macpherson, throughout the day, watch where he rests and feeds, ascertain the nature of his food, listen to his well-known call, see the covey pairing off for the breeding season, find the nest and note the materials of which it is composed,

together with the number and colour of the eggs; await the period of incubation, and observe the behaviour of the hen bird, and the growth of the chicks until they are old enough to take care of themselves, and are strong enough on the wing to come under the notice of Mr. Stuart Wortley. We are then instructed in the whole art of Partridge-shooting, whether by walking them up in line, shooting over dogs, or driving; and to the majority of readers, we imagine, this will prove the most attractive portion of the book. In view of the two volumes on Shooting which form part of the Badminton Library, Mr. Stuart Wortley had no easy task before him when he undertook to write the treatise now before us. It was difficult to go over the ground which had been so well traversed in those earlier volumes by such a past master as Lord Walsingham, without risking some charge of plagiarism, or at least some want of originality. Mr. Wortley, however, has surmounted the difficulty, and very well has he done it. The secret of his success, as it seems to us, lies in the fact of his drawing upon his own experience, which is evidently extensive, and saying what he has to say in a bright, fresh and original manner, which carries the reader with him through every page, "from find to finish."

We have been particularly struck with his last chapter, headed "*Verbum sap.*," in which he discusses the present aspect of the Game Laws, and the silly clamour which periodically arises for their abolition. His observations on the whole are just, and often forcible. Thus:—

"The late Mr. Peter Taylor, M.P., who was about as good a judge of the relations between landlord, tenant and labourer, as a modern alderman would be of a Roman triumph, loudly demanded and eventually obtained the last Select Committee on the Game Laws twenty years ago. His discomfiture was complete when it was found that the great weight of evidence given by farmers was in favour of retaining them!"

Mr. Wortley insists that good farming and a large stock of Partridges are absolutely compatible conditions, and are often seen together. "This," he says, "the farmers cannot deny. If they do, depend upon it they are discontented men and bad farmers, and consequently not worth having as tenants."

We should like to make further extracts, but the demands upon our space preclude this. We must content ourselves with commending the book, which is well planned, well written, and has, moreover, some excellent illustrations.

